

Site 43	Maketu Estuary, beach and spit	Risk ranking: 1
<p>DESCRIPTION</p> <p>This site comprises of a sand spit and large estuary with extensive saltmarsh vegetation and intertidal mudflats, with a branch of the Kaituna (Te Tuma) River entering through three sluice gates at the western end.</p> <p>Internationally protected migratory shore birds feeding – treaty obligations (JAMBA, CAMBA, ROKAMBA). Meets RAMSAR criteria for internationally significant wetland.</p>		
<p>Foreshore type/environmental value</p>	<p>Intertidal flats, open water in channel, foreshore vegetation, saltmarsh, riparian vegetation.</p> <p>Habitat (intertidal/shoreline).</p> <p>All shore segments have “habitat value”.</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BD 38 Maketu</p>	<p>Chart Number NZ 541</p>
<p>Segments</p>	<p>BOP 122, 123, 330, 340, 300, 350, 360, 370, 160, 1470, 1460</p>	
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Maketu Estuary is an important feeding and roosting area for migratory birds and waders of both national and international importance, including New Zealand dotterels, NZ Fairy tern • The spit is a recreation reserve with New Zealand dotterels nesting on the tip • Greatest diversity of shorebirds in the Bay of Plenty. Few thousand birds • Large diversity of birds including at risk and threatened species, e.g.: New Zealand dotterel (tuturiwhatu), caspian tern (taranui), wrybill (ngutuparore), banded rail (kataitai), fern bird (kareni), bittern (matuku hūrepo), spotless crane (pūweto), white heron (kōtuku). There is also a known royal spoonbill population of 50 • The whole estuary, sandspit and coastal area are identified in the Regional Coastal Plan as areas of significant conservation/cultural value • Kaimoana: fishery and shellfish gathering • Cultural sites: taiapure and is of special cultural significance as a food source. Marae on shore • Arawa Wetland is of cultural significance, is a known burial site, and contains archaeological sites NZAA V14/21 (mission site) and NZAA V14/38 (dwelling site) 		
<p>Notes</p> <p>Kaituna River exits to the sea through a cut; a controlled flow enters the Maketu Estuary through control/sluice gates that can be closed to isolate the river from the estuary. Significant tidal inflow is expected with spring tides with increased likelihood of oil entry to the Maketu Estuary.</p> <p>Oil that enters the low energy systems of Maketu Estuary will remain for some time. Oil will harm saltmarsh habitat, biodiversity in intertidal flats and whitebait spawning areas in the estuary.</p> <p>Maketu Spit (WBORDC Reserve) is managed by local care group. This is currently Julian Fitter: Mobile: 021 0769436 or 07 5332040 of the Maketū Ongatoro Wetlands Group. The Kaituna Rediversion project is underway and will enhance the ability to prevent oil entering from Te Tumu and possibly other options to increase flows and the inflows of oil. Discuss options with Rivers and Drainage.</p> <p>Actions</p> <ul style="list-style-type: none"> • Prevent/minimise oil ingress into this system 		

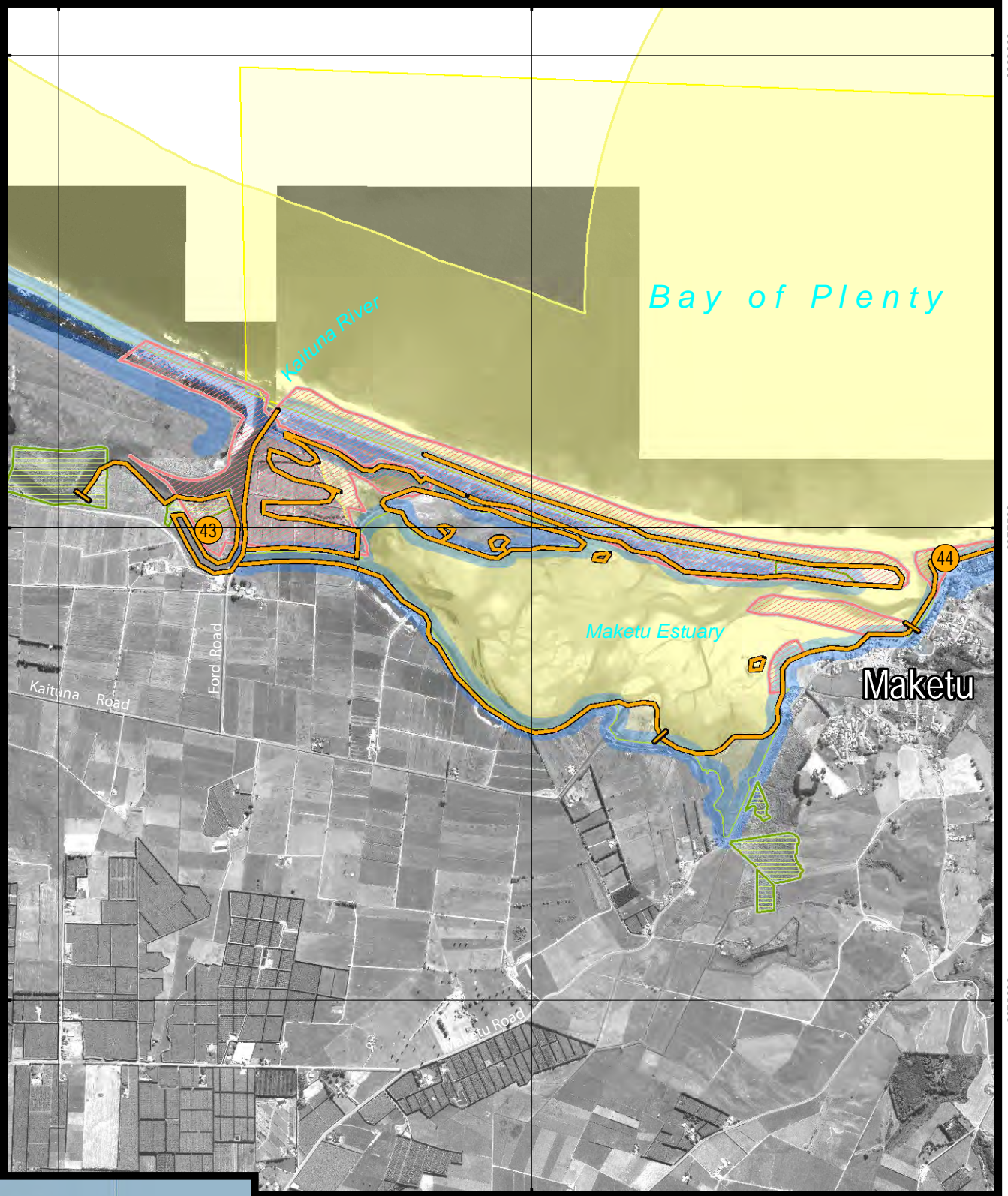
- Establish collection and recovery on sandy areas of the estuary mouth
- Pre-emptive closure of the Kaituna River sluice gates (contact BOPRC Rivers & Drainage Team 0800 844 880– minimum of several hours' notice required as hi-ab necessary)
- If oil enters low energy, sensitive areas, clean-up to be assessed by NEBA
- Consider pre-emptive capture of New Zealand dotterels if present
- Notify wildlife team of potential for oiling
- Discuss pre-clean-up of intertidal debris - tidal range specific – with wildlife team
- Consider pre-emptive capture of wildlife generally
- Activation of oiled wildlife response collection teams if required

Access

Access to the east side of the entrance is via Maketu. From the west vehicle access along the beach is restricted to 4WD from the mouth of the Kaituna River. There is a boat launching ramp at Maketū.

Preferred Response Option Matrix

	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Booms may be effective but require significant amount of anchors
On water Recovery	High		Tidal conditions make this challenging
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Water depth won't allow
Shoreline Clean-up	Medium		Sandy shore areas good for cleaning, rocky shore areas more difficult
Natural Recovery	Medium		Ecological area, some natural recovery may be required

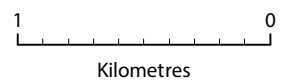


LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  Area of Significant Conservation Value

ASCV

SITE 43 Maketu Estuary, beach and spit Oil Spill Management Plan



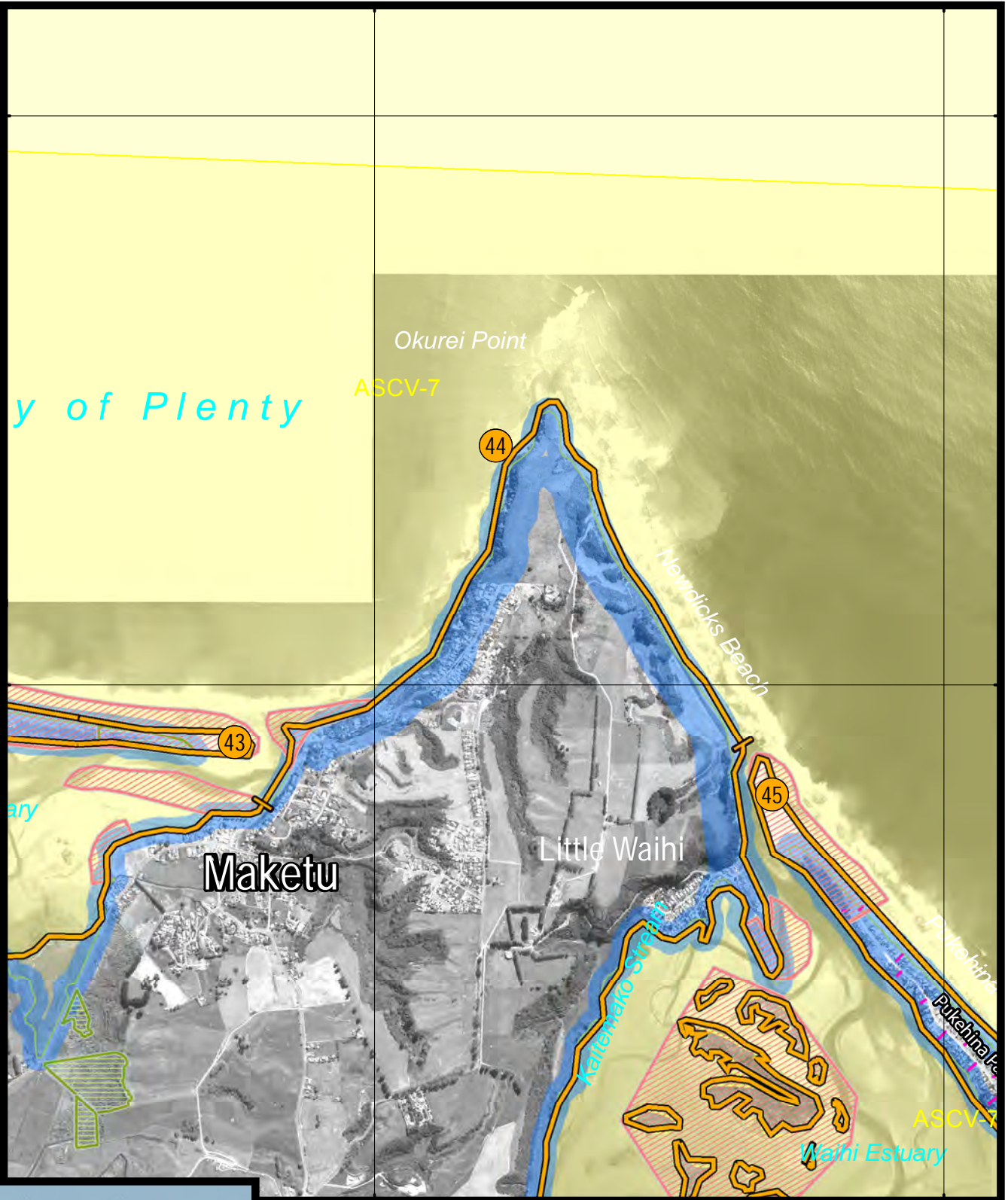
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Site 44	Okurei Point	Risk ranking: 2
<p>DESCRIPTION</p> <p>This site is comprised of an intertidal zone consisting of a bedrock platform terrace and some boulders with cliff face in the Supratidal Zone. Okurei Point is a geomorphological phenomenon of converging littoral drift and is the only example found in New Zealand and one of two in Australia and New Zealand, as such it is of international importance (DOC ref: 04-010).</p>		
<p>Foreshore type/environmental value</p>	<p>Bedrock including cracks and fissures, boulders, sea cliff. Habitat (shoreline), contact. All shore segments have "habitat value".</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BD 38 Maketu</p>	<p>Chart Number NZ 541, 542</p>
<p>Segments</p>	<p>BOP-00130, BOP-00140</p>	
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Bird species including: penguins, gulls, terns, shags (kawau) • Cultural sites/resources: kaimoana collection, taipure. This area is a seafood collecting area and has cultural significance to iwi • NZAA V14/23 (Scarp/Pit), NZAA V14/31 (Pa), NZAA V14/64 (Midden) 		
<p>Notes</p> <p>Oil in rock crevices may be difficult to remove.</p> <p>Shallow water close to shore restricts the use of dispersants and may limit navigation for larger vessels. The rocky shoreline around Town Point is a navigation hazard.</p> <p>Actions</p> <ul style="list-style-type: none"> • Shoreline clean-up when sea state and tide cycle allows access • Notify wildlife team of potential for oiling • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required • Local current eddy moves in counter clockwise direction and there is the possibility of oil being remobilised and carried into Maketu Estuary 		
<p>Access</p> <p>Access to the intertidal platforms and sea cliffs will be limited to low tide, possible access points include the Maketu Holiday Park.</p> <p>Private vehicle access to Newdicks Beach from the east side of the point, with foot access from Newdicks Beach around the point. Access from the west side is vehicular to the Maketu Surf Club and then foot access around the point (town point road is elevated). Access is indicated on the topographical map. There is a boat launching ramp at Maketū.</p>		

Preferred Response Option Matrix

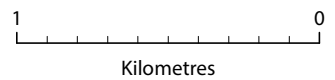
	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Shoreline not conducive to containment, shallow, rocky
On water Recovery	High		If conditions allow and further offshore due to shallow areas
Dispersant Application	Medium	Requires escalation to Tier 3 and MNZ approval	If applied in deeper water
Shoreline Clean-up	High		Due to limited access this may not be possible
Natural Recovery	Medium		May be required in inaccessible areas and rocky crevasses



LEGEND

- SCAT Sites
- Shorebird Roosts
- Site District of Local Significance
- Coastal Habitat Preservation Zone
- Beach Accessways
- Area Sensitive to Coastal Hazards
- Area of Significant Conservational Value

SITE 44 Okurei Point Oil Spill Management Plan



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INSET

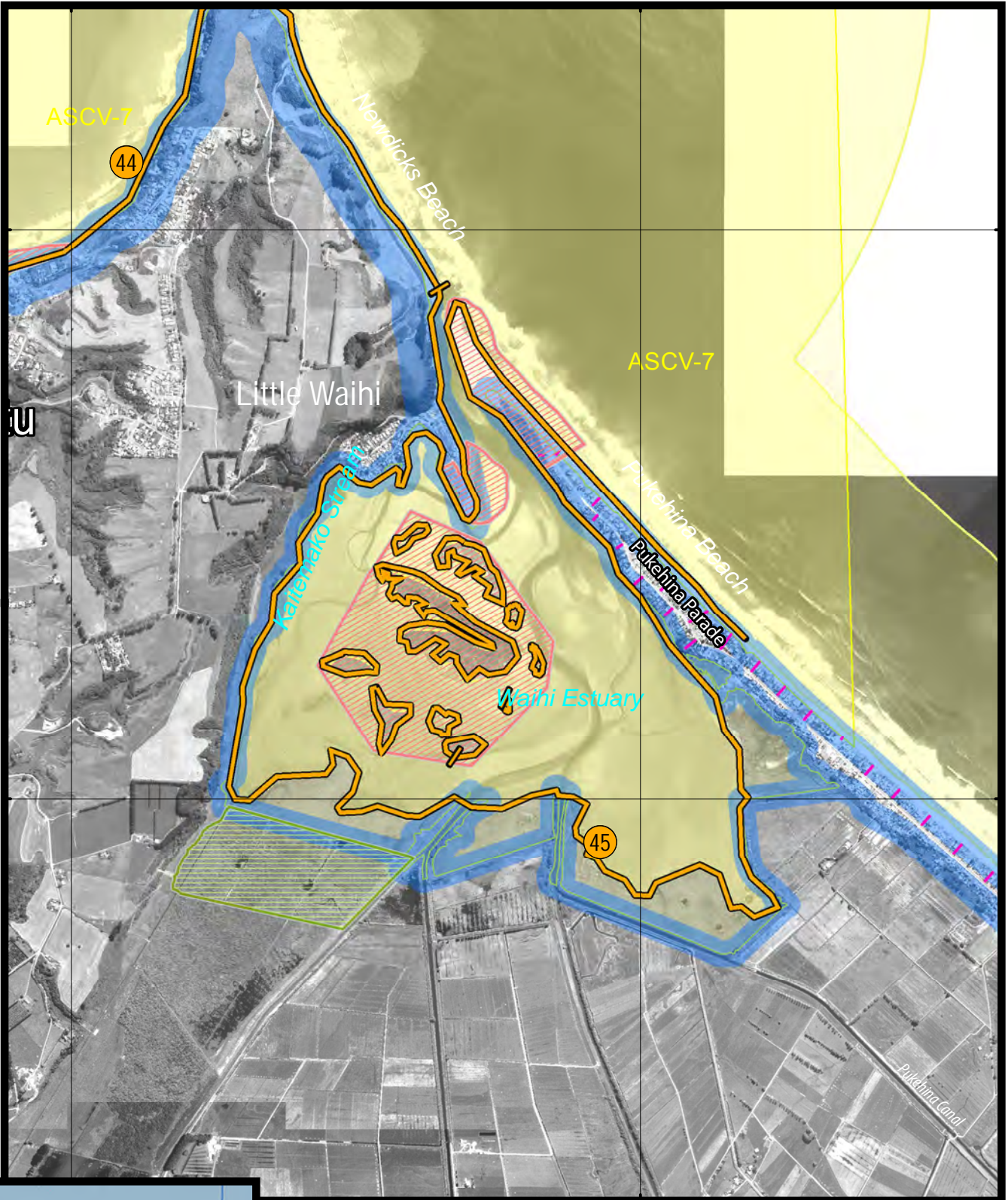
Site 45	Little Waihi Estuary	Risk ranking: 1
<p>DESCRIPTION</p> <p>This site comprises of a large estuary with extensive saltmarsh vegetation and intertidal mudflats, and diverse sub tidal habitat. There are multiple fresh water contributions the: Kaikokopu Canal; Wharere Canal; Pongakawa Canal; Pukehina Canal, all enter from the southern end. Island ecosystems in estuary.</p> <p>Internationally protected migratory shore birds feeding – treaty obligations (JAMBA, CAMBA, ROKAMBA). Meets RAMSAR criteria for an internationally significant wetland.</p>		
<p>Foreshore type/environmental value</p>	<p>Intertidal flats, salt marsh, mangroves, open water in channel, foreshore vegetation, riparian vegetation.</p> <p>Habitat (intertidal), all shore segments have “habitat value”.</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BD 38 Maketu</p>	<p>Chart Number NZ 541</p>
<p>Segments</p>	<p>BOP-00380 to 00420, BOP-00150, BOP-01350 to 01430</p>	
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Saltmarsh and mangroves, foreshore vegetation • Fish spawning nursery areas • There is a large diversity of birds including at risk and threatened species, e.g.: New Zealand dotterel (tuturiwhatu) (breeds on the spit), caspian tern (taranui), wrybill (ngutuparore), banded rail (kataitai), fern bird (matata), bittern (matuku hūrepo), spotless crane (pūweto), white heron (kōtuku) • The whole estuary, sand spit and coastal area are identified in the Regional Coastal Plan as areas of significant conservation/cultural value • Kaimoana: fishery and shellfish gathering • Cultural sites: taiapure and is of special cultural significance as a food source • NZAA V14/157 (Midden site), NZAA V14/2 (Pa site) • NZAA V14/18 (Occupation layer (10-30 cm thick). Covers an area c. 50 x 30 m) 		
<p>Notes</p> <p>The main priority area for protection is the estuarine margin wetlands towards the back of the estuary, which have high wildlife values. Oil that enters the low energy systems of Little Waihi Estuary will remain for some time. Oil will harm saltmarsh habitat, biodiversity in intertidal flats and whitebait spawning areas in the estuary.</p> <p>Actions</p> <ul style="list-style-type: none"> • Establish collection and recovery on sandy areas east of the estuary mouth • Establishing boom at estuary entrance difficult due to high currents • Notify wildlife team • Discuss pre-clean-up of intertidal debris - tidal range specific • Consider pre-emptive capture of New Zealand dotterel • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required 		

Access

Vehicle access is via Pukehina Beach Road from the east and via Maketu to the west. The western side of the estuary can be accessed from Bledisloe Park Avenue. A boat ramp and jetty is located at the end of the peninsula that Bledisloe Park Avenue provides access to. There is also a boat launching ramp at the end of Pukehina Beach Road.

Preferred Response Option Matrix

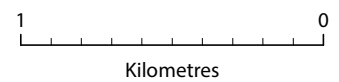
	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Some deflection booming possible
On water Recovery	High		Strong tidal flows, not a good option
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Water depth won't allow
Shoreline Clean-up	Medium		Sandy areas provide good clean up options
Natural Recovery	Medium		Due to shallow and sensitive area, some natural recovery may be required



LEGEND

	SCAT Sites
	Shorebird Roosts
	Site District of Local Significance
	Coastal Habitat Preservation Zone
	Beach Accessways
	Area Sensitive to Coastal Hazards
	Area of Significant Conservational Value

SITE 45 Little Waihi Estuary Oil Spill Management Plan



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
Site 46	Waitahanui Stream	Risk ranking: 1
<p>DESCRIPTION</p> <p>This site comprises the Waitahanui Stream mouth, tidal lagoon to the west on the shore side of the dunes. The tidal influence is 500 m up to SH 2.</p> <p>No major wetlands, small lagoon within dune system.</p>		
<p>Foreshore type/environmental value</p>	<p>Sand, lagoon, riparian vegetation</p> <p>All shore segments have "habitat value"</p>	
<p>Map sheets</p>	<p>NZ Topo 50</p> <p>BD 38 Maketu</p>	<p>Chart Number</p> <p>NZ 542</p>
<p>Segments</p>	<p>BOP-00299, BOP-00301</p>	
<p>At Risk Resources</p> <ul style="list-style-type: none"> • Numerous at risk birds, threatened species including: banded rail (katakaitai), spotless crane (pūweto), bittern (matuku hūrepo), fernbird (kareni), New Zealand dotterel (tuturiwhatu) • Freshwater fish - whitebait (inunga) • Lagoon – aquatic vegetation present • Cultural sites/values: <ul style="list-style-type: none"> ▪ NZAA V15/719 		
<p>Notes</p> <ul style="list-style-type: none"> • Public use including fishermen and whitebaiters • Oil that enters the low energy systems of the estuary will remain for some time. Oil will harm intertidal and sand flats habitat <p>Actions</p> <ul style="list-style-type: none"> • Limit the amount of oil entering the estuary by putting protection or deflection booms in place • Alternatively, close the lagoon at high tide to prevent oil entering the low energy lagoon system, repair lagoon cut off at low tide (flow dependent) • Consider pre-emptive capture of New Zealand dotterels from the western spit • Notify wildlife team of potential for oiling • Discuss pre-clean-up of intertidal debris - tidal range specific – with wildlife team • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required • The size of the lagoon may vary from that in the map/photo 		
<p>Access</p> <p>Via SH2, Otamarakau. Onto beach, will need to cross the estuary from the eastern side. Alternative access is across private farm land to the west of the lagoon and then by foot across the train tracks.</p> <p>Note that access is across a train line. Develop safety plan for safe access to this site, in conjunction with KiwiRail.</p>		

Preferred Response Option Matrix

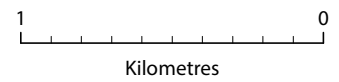
	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Shallow coastal environment
On water Recovery	High		Prior to reaching shore with appropriate vessel
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Shallow coastal environment
Shoreline Clean-up	High		Good access for beach teams, pre-clean required
Natural Recovery	Medium		May be required due to foreshore moments



LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  ASCV- Area of Significant Conservational Value

SITE 46 Waitahanui Stream Oil Spill Management Plan



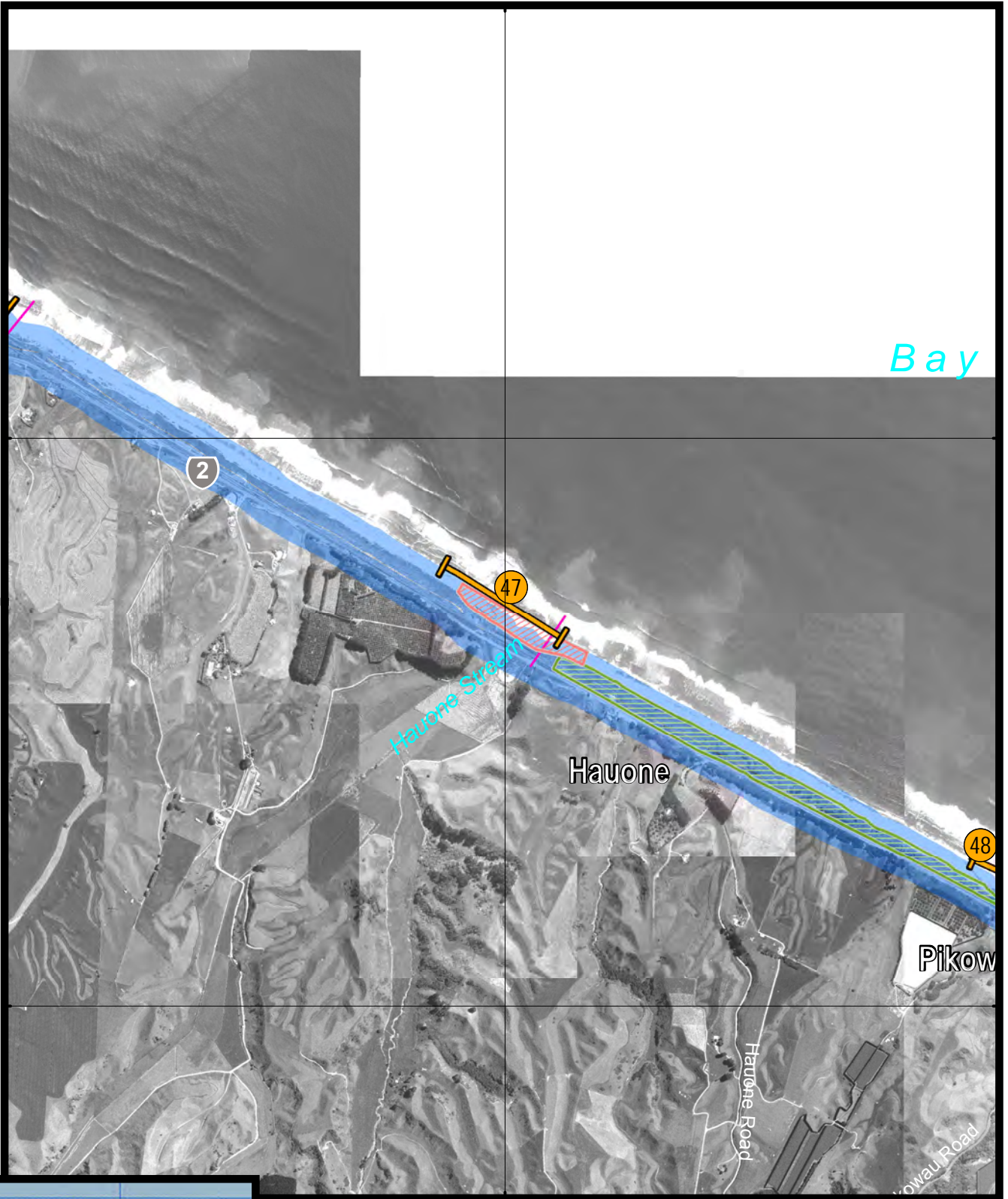
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Site 47	Hauone Stream	Risk ranking: 3
<p>DESCRIPTION</p> <p>This site is comprised of a small fresh water stream that is tidal to SH 2. Although no wetlands, there is a 500 m long lagoon behind the dune system. The stream mouth is highly mobile and may not be connected in normal flow conditions to the sea.</p>		
<p>Foreshore type/environmental value</p>	<p>Sand, lagoon, steep beaches. All shore segments have "habitat value".</p>	
<p>Map sheets</p>	<p>NZ Topo 50 BD 38 Maketu</p>	<p>Chart Number NZ 542</p>
<p>Segments</p>	<p>BOP-00305</p>	
<p>At Risk Resources</p> <ul style="list-style-type: none"> • New Zealand dotterel (tuturiwhatu) nesting – one pair • Whitebait (inanga) • Common gecko (mokomoko) • Lagoon behind vegetated supratidal area • Riparian vegetation • Moderate public use by fishermen and white baiters 		
<p>Notes</p> <p>Oil that enters the low energy system of this lagoon will remain for some time. Oil will harm saltmarsh habitat and whitebait spawning areas.</p> <p>Actions</p> <ul style="list-style-type: none"> • Prevent oil from entering the side lagoon • Notify wildlife team • Discuss pre-clean-up of intertidal debris - tidal range specific (maintain gecko habitat) • Consider pre-emptive capture of New Zealand dotterel • Consider pre-emptive capture of wildlife generally • Activation of oiled wildlife response collection teams if required • Shoreline clean-up – remove cleaned material from beaches daily (do not allow to remain over any high tidal period) and place at staging location to be agreed 		
<p>Access</p> <p>Via SH 2, Hauone.</p> <p>Note that access is across a train line. Develop safety plan for safe access to this site, in conjunction with KiwiRail.</p>		

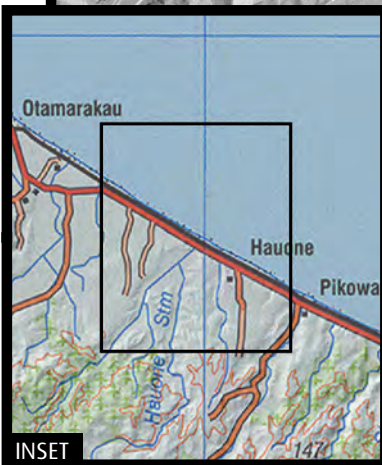
Preferred Response Option Matrix

	Most preferred	Least preferred	Feasibility
Containment and Recovery	High		Sand boom across entrance
On water Recovery	High		Shallow coastal shoreline
Dispersant Application	Low	Requires escalation to Tier 3 and MNZ approval	Shallow coastal shoreline
Shoreline Clean-up	High		Access to stream area is over train line
Natural Recovery	Medium		High intensity coastline










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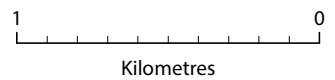
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LEGEND

-  SCAT Sites
-  Shorebird Roosts
-  Site District of Local Significance
-  Coastal Habitat Preservation Zone
-  Beach Accessways
-  Area Sensitive to Coastal Hazards
-  Area of Significant Conservation Value

SITE 47 Hauone Stream Oil Spill Management Plan



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